

# Program Notice

FGIS-PN-00-8 9-4-00

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## **CALIBRATING NMR INSTRUMENTS FOR OLEIC -TYPE SUNFLOWER SEED**

### **1. PURPOSE**

The purpose of this notice is to announce that the Federal Grain Inspection Service (FGIS) has developed a standard calibration for oleic-type sunflower seeds (mid-oleic (NuSun) and high-oleic) tested by official Nuclear Magnetic Resonance (NMR) instruments. Implementation of the calibration will eliminate the need for adjustment tables for calculating the true oil content in NuSun and high-oleic-type seeds.

Beginning September 11, 2000, FGIS will implement the new calibration for all official NMR instruments.

### **2. REPLACEMENT HIGHLIGHTS**

This notice eliminates the NuSun adjustment table as found in FGIS Program Notice 99-19, dated 10-18-99. Additionally, this notice supersedes FGIS Program Notice 00-2, dated 2-21-00, and all adjustment tables developed for Mycogen and Pioneer brands of high-oleic-type seed.

### **3. BACKGROUND**

The present NMR oil calibration was developed on the basis of linoleic-type sunflower seed. To accurately predict the output oil volume of NuSun and high-oleic-type specialty seeds, official personnel apply an adjustment factor to the NMR instrument's result to obtain the true NMR oil value.

FGIS has recently developed standard calibrations for both NuSun and high-oleic-type seed that will eliminate the need for adjustment factors. The new calibrations are specifically for NuSun and high-oleic-type seeds and will be used to supplement the linoleic calibration currently in place. FGIS has determined that replacing the adjustment tables for oleic-type seeds with oleic calibration samples will increase the accuracy of oleic sunflower oil determinations.

Upon implementation, each official NMR instrument will be equipped with two sets of calibration samples. The current linoleic calibration samples will continue to be used for linoleic seeds. New oleic calibration samples will be used for mid-oleic (NuSun) and high-oleic seeds. Although the same calibration samples will be used for both mid-oleic and high-oleic seeds, different calibration oil values will be used for each of the seed types.

#### **4. ACTION**

The calibration samples for linoleic-type seed remain unchanged. By September 1, 2000, FGIS will prepare an additional set of calibration samples (for the NuSun and high-oleic-type seeds) for each official NMR instrument currently in use and forward them to the testing locations. FGIS and/or official agency personnel will install the new calibrations and begin using them on September 11, 2000. Upon activation of the new calibration, NMR instruments will display a "True" oil value for each type of seed tested.

#### **5. QUESTIONS**

Direct any questions to the Standards and Procedures Branch at (202) 720-0224.

*/S/ Dave Orr*

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